

REMARKS

Claims 1, 4, 5, 11, 12 and 18-20 are pending in the application. Claims 1 and 20 are amended as set forth above. Reconsideration of the pending claims is respectfully requested in view of the remarks below.

I. REJECTION OF CLAIMS 1, 4-5, AND 18-20 UNDER 35 U.S.C. § 101

Claims 1, 4-5, and 18-20 were rejected under 35 U.S.C. § 101 as not falling within one of the four statutory categories of invention. Withdrawal of the rejection is respectfully requested for at least the following reasons.

Under 35 U.S.C. 101, “[a] claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.” *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008). As amended, claims 1 and 20 properly satisfy the first prong of this test and therefore the claims are a properly claimed process. More particularly, the methods of claims 1 and 20 were amended to tie the claimed processes to a wireless communication system. Accordingly, withdrawal of the rejection for these claims and dependent claims is respectfully requested.

II. REJECTION OF CLAIMS 1, 4-7, 11-13, AND 18-19 UNDER 35 U.S.C. § 103(a)

Claims 1, 4-7, 11-13, and 18-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,027,418 (Gan et al.) in view of U.S. Pat. No. 5,418,839 (Knuth et al.). Withdrawal of the rejection is respectfully requested for at least the following reasons.

- i. **Setting a counter to a maximum count each time an erroneous transmission on a frequency channel is identified, as recited in claim 1, is not obvious over the cited art.***

Claim 1 relates to a method for selecting frequency channels in a data transmission method comprising, reinserting a frequency channel into the frequency

hopping sequence, comprising setting a counter to a maximum count each time an erroneous transmission on the frequency channel is identified and reinserting the frequency channel into the frequency hopping sequence when the counter has reached the maximum count.

The Office Action rejects claim 1, alleging that although Gan et al. fail to teach this aspect of claim 1, Knuth et al. do. (See, p. 6, ln. 8). In particular, the Office Action finds support for this contention in col. 8, lns. 15-20, where Knuth et al. teach that if the cumulative value for the counter of a channel has reached a maximum count value, it means that the channel has been experiencing interference. The Office Action implies that in teaching this, "Knuth does suggest setting the counter to the maximum count each time an erroneous transmission on the frequency channel is identified". (See, O.A. of 3/18/09, p. 6, lns. 8-15). However, it is respectfully argued that this implication is incorrect and that it would not have been obvious, based on the teaching of Knuth et al., to set the counter value **to a maximum count each time an erroneous transmission on a frequency channel is identified**.

More particularly, Knuth et al. teach a method of scanning available channels to determine a preferred channel subset comprising channels that are the most interference free. (See, e.g., Abstract). Starting **from a minimum counter value**, the method proceeds by incrementing a channel's cumulative counter value **each time an error is observed**. Channels having smaller counter values are then chosen to comprise a subset of channels having the lowest counter values. (See, col. 8, lns. 3-40). Since the counter value denotes the interference of a channel (e.g., a higher counter value signifies more channel interference), in choosing the subset of channels having the lowest counter values, Knuth et al. effectively chose a subset of interference free channels (i.e., channels exhibiting the least noise).

In contrast, claim 1 relates to a method of decrementing a counter value from a maximum value and only **reinserting channels reaching a minimal value**. This method reinserts eliminated channels back into a frequency hopping sequence by starting **from a maximum counter value and decrementing the counter value each**

time an error free transmission is observed. When a minimum value is achieved the channel is reinserted, but if an error is observed the channel is returned to its maximum counter value.

By setting the counter to the maximum value each time an erroneous transmission on the frequency channel is identified, claim 1 ensures that eliminated channels are clear of interference ***for an extended period*** of time before reinserting them into the frequency hopping sequence. In contrast, ***Knuth et al. have no motivation to set the counter value to a maximum each time an erroneous transmission is identified*** since their invention is based upon forming a subset of channels ***comprising counter values with the lowest values.***

Furthermore, Knuth et al. particularly teach, that "if the value of the counter M(CQ-ptr) has not reached the maximum value FF, the CQhi is incremented at 114 by the value of 1 and the routine continues." (*See*, col. 8, Ins. 20-23). Since Knuth et al. teach a **relative ordering** (i.e. based on counter values) is used to select good channels, this sentence clearly states that the counter of an eliminated channel is not set to the maximum value each time an interference or erroneous transmission is detected.

Accordingly, for at least these reasons withdrawal of the rejection is respectfully requested.

Claim 20 relates to a method for selecting frequency channels associated with a frequency hopping sequence in a cordless communication system, comprising characterizing an eliminated frequency channel by setting a counter to a maximum count ***each time*** an erroneous transmission on the eliminated frequency channel is identified. For the same reasons stated above, withdrawal of the rejection is respectfully requested.

- ii. ***The Office Action fails to satisfy the necessary requirements for establishing a prima facie case of obviousness for rejection of claims 1 and 20, as the proposed modification of Gan et al. in combination with Knuth et al. is improper.***

To establish a *prima facie* case of obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Further, if proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900 (Fed. Cir. 1984).

The Office Action concedes that the combination of Gan et al. and Knuth et al. fail to explicitly teach setting a counter to a maximum count each time an erroneous transmission on a frequency channel is identified. (See, O.A. of 03/18/09, p. 6, Ins. 2-7). However, the Office Action asserts that this aspect of claims 1 and 20 is suggested by Knuth et al. (See, p. 6, Ins. 8-17). However, as will be set forth in greater below, it is respectfully argued that ***Knuth et al. do not suggest setting a counter to a maximum count each time an erroneous transmission on a frequency channel is identified since such a modification would frustrate the purpose of their invention.***

More particularly, Knuth et al. teach a method of scanning available frequency channels to select a preferred channel subset which comprises channels that are the most interference free. (See, e.g., Abstract). The method provides a cordless telephone with a frequency channel to use, along with a ***prioritized list of several alternative frequency channels*** in case the primary channel is busy at that time. (See, col. 3, Ins. 40-44). The scanning routine proceeds by checking frequency channels and incrementing a counter value associated with frequency channels having interference. (See, e.g., col. 8, Ins. 14-29). The channels are then sorted ***based upon their counter values (CQ value), so that channels with a lower counter value (i.e., clearer channels) are preferentially accessed or selected by the channel selection***

means. (See, col. 8, Ins. 33-40). Therefore, the method taught by Knuth et al. of selecting clear channels for transmission relies upon different frequency channels having **different counter values** to form a prioritized list exhibiting the level of interference on respective channels.

However, ***if the counter values were to be set to a maximum counter value each time an erroneous transmission on a frequency channel was identified, then information regarding the clarity of different channels would be lost and the different channels could not be put into a prioritized list as required by the method of Knuth et al.*** Instead channels would either be set to no counter value (i.e., if no erroneous transmission is determined) or a maximum value (i.e., if an erroneous transmission is determined), thereby ***frustrating the ability to identify clear channels*** from a ***prioritized list*** and frustrating the method of Knuth et al. to provide alternative channels in case the primary channel is busy at that time.

More particularly, if the counter values were to be set to a maximum counter value ***each time*** an erroneous transmission on a frequency channel was identified, the counter value would only convey information regarding the latest channel measurement. Therefore, the system of Knuth et al. would conclude, from the cumulative nature of the counter value, that ***a channel experiencing a single erroneous transmission*** has ***continuously suffered from interference***, since otherwise the cumulative counter value would not have reached its maximum.

The Office Action's suggested modification of Knuth et al. therefore could lead to mischaracterization of a channels clarity resulting in predominately clear channels being excluded from use. For example, if a frequency channel was observed as having a clear channel for a first 99 transmissions and then was identified as having a single erroneous transmission (causing the counter to be set at a maximum value), that channel ***would automatically be identified as an unclear channel, and not used, despite being mostly clear.*** Accordingly, the suggested modification of Knuth et al. would frustrate the purpose of Knuth et al., and thus the proposed modification is improper and withdrawal of the rejection is respectfully requested.

III. CONCLUSION

As the remaining claims depend either directly or indirectly from claims 1 and 13, which are now believed to be allowable, all claims are believed to be in condition for allowance. Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should any fees be due as a result of the filing of this response, the Commissioner is hereby authorized to charge the Deposit Account Number 50-1733, LLP113US.

Respectfully submitted,
ESCHWEILER & ASSOCIATES, LLC

By /Thomas G. Eschweiler/
Thomas G. Eschweiler
Reg. No. 36,981

National City Bank Building
629 Euclid Avenue, Suite 1000
Cleveland, Ohio 44114
(216) 502-0600